

CLAIMS

1. A knitting method for an intarsia pattern executed in a section on a boundary of the intarsia pattern in which a yarn feeding end position of a yarn feeder on a current course and a yarn feeding resumption position of the yarn feeder on a following course differ in a knitting course direction, the method comprising the steps of:

performing smoothing knitting by causing the yarn feeder to perform a reciprocating motion in the section such that on an outward route, a part of stitches of a single course in the section is formed, and on a return route, a remainder of the stitches of the single course in the section is formed, whereby the stitches of the single course in the section is formed by the sum total of the outward route and the return route; and

ensuring that knitting with another yarn feeder is not performed in the section between the outward route and the return route of the smoothing knitting.

2. The knitting method for the intarsia pattern of claim 1, wherein:

knitting is performed with at least a leading yarn feeder and a trailing yarn feeder;

in a section in which a pattern to be knitted with at least one of the leading yarn feeder and the trailing yarn feeder increases in the knitting course direction from a current course to a following course, a part of stitches in the section is formed on a current knitting course, and a remainder of the stitches in the section is formed on a following knitting course; and

in a section in which a pattern to be knitted with at least one of the leading yarn feeder and the trailing yarn feeder decreases in the knitting course direction from a current course to a following course, a part of stitches in the section is formed on a

current knitting course, and a remainder of the stitches in the section is formed on a following knitting course.

3. The knitting method for the intarsia pattern of claim 2, wherein
 - in the section in which the pattern to be knitted with the leading yarn feeder increases in the knitting course direction from the current course to the following course, knitting on the current knitting course is performed excluding a part of stitches on the following course, whereupon the leading yarn feeder is returned and the part of the stitches of the following course is formed, and
 - in the section in which the pattern to be knitted with the trailing yarn feeder decreases in the knitting course direction from the current course to the following course, the part of the stitches of the following course is formed on the following knitting course, whereupon the leading yarn feeder is returned and stitches of another following course in the section are formed by the leading yarn feeder.
4. The knitting method for the intarsia pattern of claim 1, wherein during knitting of the intarsia pattern in which a pattern A protrudes into a pattern B by a single stitch row width in a course direction, the smoothing knitting is performed by causing one yarn feeder selected from a pattern A yarn feeder and a pattern B yarn feeder to perform a reciprocating motion in a section corresponding to a length of the protruding portion, whereupon smoothing knitting is performed by causing the other yarn feeder of the pattern A yarn feeder and the pattern B yarn feeder to perform a reciprocating motion in the section corresponding to the length of the protruding portion.

5. A knitting fabric including an intarsia pattern, the fabric having a section in which a boundary of the intarsia pattern varies discontinuously, wherein
 - a course comprising a part of stitches in the section and a course comprising a remainder of the stitches in the section are both formed on a stitch row of a course preceding the section to form a single course of the stitches in the section by the sum total of the course comprising the part of the stitches in the section and the course comprising the remainder of the stitches in the section.
6. The knitting fabric including the intarsia pattern of claim 5, wherein:
 - a pattern A protrudes into a pattern B by a single stitch row width in a course direction;
 - in a section corresponding to a length of the protruding portion, a row of stitches with one yarn of a pattern A yarn and a pattern B yarn is formed on a stitch row of a course preceding the section such that a course comprising a part of the stitches in the section and a course comprising a remainder of the stitches in the section to form a single course of the stitches in the section with the one yarn by the sum total of the course comprising the part of the stitches in the section and the course comprising the remainder of the stitches in the section; and
 - a row of stitches with the other yarn of the pattern A yarn and the pattern B yarn is formed on a row of the single course of the stitches in the section with the one yarn such that a course comprising a part of stitches in the section and a course comprising a remainder of the stitches in the section to form a single course of the stitches in the section with the other yarn by the sum total of the course comprising the part of the stitches in the section and the course comprising the remainder of the stitches in the section

in the section.

7. A knit designing device, for converting a knitting fabric design into a knitting method for a knitting machine, comprising:

detecting means for detecting a section on a boundary of an intarsia pattern in which a yarn feeding end position of a yarn feeder on a current course and a yarn feeding resumption position of the yarn feeder on a following course differ in a knitting course direction; and

smoothing means for generating a smoothing knitting command to cause the yarn feeder to perform a reciprocating motion in the detected section such that on an outward route, a part of a single course of stitches in the section is formed, and on a return route, a remainder of the single course of the stitches in the section is formed, whereby the single course of the stitches in the section is formed by the sum total of the outward route and the return route, wherein

knitting with another yarn feeder is not performed in the section between the outward route and the return route.

8. The knit designing device of claim 7, wherein

knitting is performed with at least a leading yarn feeder and a trailing yarn feeder,

a knitting command is generated such that in a section in which a pattern to be knitted with at least one of the leading yarn feeder and the trailing yarn feeder increases in the knitting course direction from a current course to a following course, a part of stitches in the section is formed on a current knitting course, and a remainder of the

stitches in the section is formed on a following knitting course, and
a knitting command is generated such that in a section in which a pattern to be
knitted with at least one of the leading yarn feeder and the trailing yarn feeder decreases
in the knitting course direction from a current course to a following course, a part of
stitches in the section is formed on a current knitting course, and a remainder of the
stitches in the section is formed on a following knitting course.

9. The knit designing device of claim 8, wherein

a knitting command is generated such that in a section in which the pattern to
be knitted with the leading yarn feeder increases in the knitting course direction from
the current course to the following course, knitting on the current knitting course is
performed excluding a part of stitches on the following course, whereupon the leading
yarn feeder is returned and the part of the stitches on the following course is formed,
and

a knitting command is generated such that in the section in which the pattern to
be knitted with the trailing yarn feeder decreases in the knitting course direction from
the current course to the following course, the part of the stitches of the following
course is formed on the following knitting course, whereupon the leading yarn feeder is
returned and stitches of another following course in the section are formed by the
leading yarn feeder.

10. A knitting program comprising:

detecting command for detecting a section on a boundary of an intarsia pattern
in which a yarn feeding end position of a yarn feeder on a current course and a yarn

feeding resumption position of the yarn feeder on a following course differ in a knitting course direction; and

smoothing command for generating a smoothing knitting command to cause the yarn feeder to perform a reciprocating motion in the detected section such that on an outward route, a part of a single course of stitches in the section is formed, and on a return route, a remainder of the single course of the stitches in the section is formed, whereby the single course of the stitches in the section is formed by the sum total of the outward route and the return route, wherein

knitting with another yarn feeder is not performed in the section between the outward route and the return route.

11. The knitting program of claim 10, wherein

knitting is performed with at least a leading yarn feeder and a trailing yarn feeder,

a knitting command is generated such that in a section in which a pattern to be knitted with at least one of the leading yarn feeder and the trailing yarn feeder increases in the knitting course direction from a current course to a following course, a part of stitches in the section is formed on a current knitting course, and a remainder of the stitches in the section is formed on a following knitting course, and

a knitting command is generated such that in a section in which a pattern to be knitted with at least one of the leading yarn feeder and the trailing yarn feeder decreases in the knitting course direction from a current course to a following course, a part of stitches in the section is formed on a current knitting course, and a remainder of the stitches in the section is formed on a following knitting course.

12. The knitting program of claim 11, wherein
a knitting command is generated such that in a section in which the pattern to be knitted with the leading yarn feeder increases in the knitting course direction from the current course to the following course, knitting on the current knitting course is performed excluding a part of stitches on the following course, whereupon the leading yarn feeder is returned and the part of the stitches on the following course is formed, and

a knitting command is generated such that in the section in which the pattern to be knitted with the trailing yarn feeder decreases in the knitting course direction from the current course to the following course, the part of the stitches of the following course is formed on the following knitting course, whereupon the leading yarn feeder is returned and stitches of another following course in the section are formed by the leading yarn feeder.